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## Employee Spotlight: Christopher Graham

Time to suit up, medieval style

Christopher Graham of Special Security IT and Cyber Operations (SSO-3) makes medieval armor using a combination of old-school techniques and tools with modern accouterments, such as a blacksmith's gas-powered forge and a power hammer.



**Photo 1a and 1b:** Christopher Graham crafts complete suits of medieval armor, as well as accessories (like the leather quiver shown in the left photo) and jewelry.

Christopher Graham of Special Security IT and Cyber Operations (SSO-3) walks into a modern shop in the backyard of his home. As always, however, Chris' thoughts hearken back to medieval times, when European knights donned suits of intricate armor and battled for king and country. Dressed in a tunic and leather apron, he grabs a hammer and a piece of metal and begins to apply old-school techniques to craft a component that will eventually make up a complete suit of armor made of metal and leather. The hammer strokes are so loud that it's best to wear ear protection as Chris takes what is in his head and crafts it into the metal.

While still in high school in 1984, Chris was invited by a friend to participate in an event sponsored by the Society for Creative Anachronism (SCA), a "living history" group that studies and recreates Medieval European cultures and their histories.

"My friend invited several of us to this event, but I was the only one who showed up," Chris says with a wide smile. "I got a tour of the place and I liked it so much I wanted to participate. That's how it all started."

One of the fun activities at SCA events consists of combatants in full armor and a variety of wooden weapons squaring off in intense skirmishes. This type of fighting, although done without actual blades, is very real, with the warriors holding nothing back. To ensure that physical damage is kept to a minimum, such warriors must find the best armor that money can buy.

“After 16 years of play, I got tired of buying armor,” explains Chris. “I had started working with leather in 1986, and I decided to try my hand at making metal armor as early as 2000. Once I became proficient in armor construction, I started expanding into other accessories, from leather bags and quivers to jewelry. Lately, I’ve expanded my shop to include forging components, as I intend to create weapons, such as knives, swords and axes.”

### **Aesthetics and functionality**

When it comes to making armor, Chris started primarily with European designs but has since explored other types of armor, from suits designed in the Middle East to some crafted in Japan for the Samurai and foot soldiers. His area of specialty consists of armor designs created in Europe from the eleventh to the fourteenth century.

“I make all the pieces, from head to toe,” says Chris. “Helmets, mitt guards, gauntlets, leg plates, breastplates, and all the rest—if the body part needs protection, I make it.”

Chris says that the first step in making a suit of armor is to take “a bunch” of measurements. Metal is unforgiving, and an ill-fitting suit will not be worn a second time. Notes Chris: “The last thing you want is to be cut up by a piece of armor you thought was supposed to protect you.”

“Once I am happy with the measurements, it can take as long as five months to hand-hammer a complete suit,” Chris says. “Using modern equipment, like a power hammer and such, cuts the time down to about two months. The more detailed the component, the longer it will take me to craft. Accents like brass details, repoussé work (designs hammered into the armor from the reverse side), etching and leather carving (coats of arms and other designs) add time. The more ornate the armor, the longer it takes to craft.”

Once Chris has all the pieces, his next big step is to fit them together and ensure that all the pieces work well in terms of articulation. The idea behind articulation is freedom of movement. A wearer should be able to move well, not like a robot.

For Chris, his greatest satisfaction in making armor also happens to be his greatest challenge. “No matter how much I learn, I always find that there is more to learn,” he says. “I’m never bored—there are countless rabbit holes to explore when it comes to making armor.”



**Photo 2:** Armor pieces crafted by Chris Graham.



**Photo 3:** Leather and metal armor components designed to protect a wearer's legs.



**Photo 4:** Repoussé designs for jewelry accents done using various types of metals.

### Patience and persistence lead to precision

**Pull Quote:** “I get great satisfaction when a piece is done—what started out as pieces of metal is now a suit designed to protect a wearer from all kinds of medieval weapons. Watching someone step into the field of battle wearing a functional work of art I created is like nothing else.”

When it comes to moving metal, Chris emphasizes that patience and persistence are what lead to precision.

“It’s easy to think that anybody can swing a hammer, and that’s true,” explains Chris, “but making precise hits on a piece of metal to craft a certain shape, that’s something else entirely. Being patient and persistent in cultivating hammer control—that is what will enable you to develop precision in your strikes.”

Making armor requires a distinct set of tools, and it’s unlikely you will find such tools available in the modern marketplace, so Chris makes his own tools for his armor-working craft.

“Yeah, it’s not like I can go to the department store to pick up what I need,” laughs Chris. “Making these tools, though, enables me to tailor them for specific functions that help me to work faster and better. It’s really rewarding that I can craft the tools that allow me do what I love to do.”



**Photos 4a and 4b:** Chris Graham uses various types of hammers and other tools to craft pieces of armor. Over time, Chris has made many of these medieval tools.

*Chris recently became a member of Special Security IT and Cyber Operations (SSO-3). Previously, he worked for ten years in Physical Security Systems (SEC-PSS).*

## Resources

[Shire of Bryngolau](#) (Los Alamos and Española)  
[Society for Creative Anachronism](#)